Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

of the state to harvest all of the land which has been sown to wheat, and this recurring loss must be provided against in any calculation which is intended to accurately show the cost of production. For example: If one acre in five sown to wheat is lost through climatic and other conditions, the four acres remaining must bear the cost of the seed, the seed-bed preparation and the sowing of the five acres, and this difference is taken account of under the term "crop risk." It is shown from the figures published by the Kansas State Board of Agriculture that the loss on the several divisions into which the state has been divided for the purpose of this investigation are as follows: Northwestern, 11 per cent; southeastern, 9 per cent; north central, 25 per cent; south central, 18 per cent; northwestern, 38 per cent; and southwestern, 45 per cent.

It is found that the average number of days devoted to wheat in the eastern division of the state was 80; in the central division, 106; and in the western division, 104; while the average wheat fields in eastern Kansas measure 65 acres; in central Kansas, 182 acres; and in western Kansas, 235 acres.

The purpose of this paper has been to give somewhat in detail the facts which are absolutely necessary in the determination of any reliable statistics concerning a farm crop, but incidentally the inquiry has been of great benefit in other ways as well. Many farmers have had their interest aroused and neighborhood discussions have been encouraged, a spirit of coöperation fostered, and the possibility of a knowledge of the cost of production in helping farmers toward a more economic method has been developed. The highest value of this work in the mind of the writer lies in the fact that it will serve to remove much misinformation which exists in the minds of the public in regard to the profits which are popularly credited to the farmer, and show that the wheat farmers of Kansas, at least, are not profiteers.

Another vitally important fact that has been developed by this investigation is to be found in the example which it has set for the obtaining in an accurate and reliable manner the essential facts of cost of production upon which all business enterprises should be based and which heretofore have been so universally lacking when applied to agriculture, which is our greatest and most fundamental business.

Standards of Purity for Medicinal Agents.

L. E. Sayre.

The tenth revision of the United States Pharmacopœia will soon be started. The convention which will appoint the members of the next revision committee meets in Washington on May 11. About fifty revisers will be chosen at that time. It is therefore quite important at this time to call the attention of chemists to the standards that are embraced within the pages of the present revision of the Pharmacopœia. Almost every chemist who has anything to do with laboratory work or investigation and research is interested in this question of standards, and therefore it is advisable that everyone who has anything to do with chemistry shall feel free to contribute to the standards for medicinal chemicals.

It is well known that the United States Pharmacopœia does not require absolute purity with regard to chemicals. Absolute purity in many of the com-

mercial chemicals is unattainable, unnecessary or practically undesirable on account of greatly increased expense. The analytical chemist must, of course, use chemicals for volumetric solutions and reagents of the highest possible purity, but such standards are not required in medicine or pharmacy, provided poisonous or dangerous substances are rigidly excluded. Minute quantities of innocuous products will not perceptibly affect the dosage or medicinal activity of a remedy. What is known as the "purity rubric" in the Pharmacopœia represents requirements that can be easily demanded and that represent a purity which is quite sufficient for medicinal activity; as, for example, in the case of potassium bromide the purity rubric states that this salt shall contain, when dried to constant weight at 100° C., not less than 98.5 per cent of KBr, and the tests applied to eliminate possible objectionable impurities are directed against the iodide, bromate and sulphate. A minute quantity of chloride would be unobjectionable. The general tests applied are melting points, boiling points and congealing points, and these are of special value.

As to vegetable drugs the standards provided by the Pharmacopœia apply not only to the crude drug, but also to the powdered or ground drug. In the case of the powdered vegetable drug it is needless to say that microscopical standards are used, and these standards are employed by the United States government as well as by the drug laboratories. Any one who will examine the Pharmacopœia and notice the descriptions of the powders will note that the microscopical analysis is quite accurately stated, so that the drug itself is well identified and every precaution is taken against possible adulteration.

The object of this paper is largely to call attention to the subject of the standardization and to interest all of those who are working in either lines of chemistry or in microscopy which has to deal with condiments or any other vegetable substances of commercial value, in order that they may take an interest in this subject and feel free to make any contributions in the direction indicated, assuring any who may do so that their work would be greatly appreciated.

It may be of interest to note in this connection that among the biological products that have been introduced into the Pharmacopœia and standardized are the serums and glandular products. We have recognized, for example, the antidiphtheric serum in three forms; one in the dried form and the other two liquid—one having a potency not less than 250 antitoxic units per mil, and the other physiological salt solution which has the same number of units per mil. There is also, in the official antitetanic serum, the plain and the purified and the dried. There is also, in the glandular product, the desiccated thyroid gland and suprarenal gland. There is also the smallpox vaccine.

Indications from correspondence with biological laboratories show that since the last revision official governmental standards have been adopted for antimeningitis, antipneumococcus, antidysentery and antityphoid vaccine. Of course, if the convention reaffirms the principles of the last convention all of these will be admitted to the Pharmacopœia without question.

As before stated, this paper is contributed largely to give information as to what is now in evidence so far as medicinal standards are concerned and what the new revision committee of the Pharmacopœia will be obliged to face.